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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/727,663

12/05/2003

Hiroyuki Shibaki

246242US2

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10/29/2008

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EXAMINER

KAU, STEVEN Y

ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

10/29/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/727,663	SHIBAKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	STEVEN KAU	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21, 24, 26-53, 56 and 58-65 is/are pending in the application.
- 4a) Of the above claim(s) 1-19, 28-51 and 60-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20, 21, 24, 26, 27, 52, 53, 56, 58 and 59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

Note to the applicant: this Office Action is a supplemental action to supersede the previous Action sent on September 18, 2008. The reason is to include the cited reference of US 5,872,643 to Maeda et al in Form PTO-892, Notice of Reference Cited by Examiner. The cited reference Maeda et al' 643 was used in the Response to Remark/Arguments but was not listed in Form PTO-892 in the previous Action sent out on September 18, 2008.

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 8, 2008 has been entered.

### ***Response to Amendment***

2. Applicant's amendment was received on 6/9/2008, and has been entered and made of record. Currently, claims 22-23, 25, 54-55 and 57 have been cancelled, and claims 1-21, 24, 26-53, 56 and 58-65 are currently pending with claims 1-19, 28-51 and 60-65 being withdrawn.

### ***Response to Remark/Arguments***

3. Applicant's arguments with respect to claims 20-21, 24, 26-27, 52-53, 56, and 58-59 have been fully considered and the reply to applicant's remarks/arguments are as follows:

- Applicant's arguments, "Objection to the Drawings", page 23, Remarks, with respect to Claim 24 have been fully considered and are persuasive. The drawing objection under 37 CFR 1.83(a) has been withdrawn from the record.
- Applicant's arguments, "Rejection Under 35 U.S.C. § 112, second paragraph", pages 23-25, with respect to claims 20-21, 24, 26-27, 52-53, 56, and 58-59 have been fully considered and are persuasive. The rejection of claims 20-21, 24, 26-27, 52-53, 56, and 58-59 under 35 U.S.C. § 112 Second Paragraph has been withdrawn.
- Applicant's arguments with respect to Claims 20-21, 24, 26-27, 52-53, 56, and 58-59 have been fully considered but are not persuasive.

With respect to claim 20 -

Applicant arguments, "Element 235 in Figure 4a of the '257 patent is marked as "zooming unit C," and does not magnify *any* component signals of color image signals. In fact, zooming unit C takes as input a 2-bit value, designated by the numeral "2" above an arrow connecting element 237 (DL3) and element 235 (zooming unit C). "Zooming unit C 235, and a delay unit ... 237 are circuits which perform timing adjustment to synchronize the image signal and the area signal with each other."<sup>7</sup> Therefore, zooming unit C (element 235) clearly does not magnify any component signals of color image signals, but rather performs timing adjustment. Thus, the assertion by the outstanding Office Action that zooming unit C (element 235 of Figure

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4a) of the '257 patent is the same as a first magnification unit, as recited by Claim 20, is erroneous", Page 25-26.

In re, the examiner respectfully disagrees. with respect to claim 20, limitation recites, "a first magnification unit that magnifies data of at least one component signal of the color image signals represented by a plurality of color component signals" and '275 reference discloses zooming unit C 345 takes the two-bit area signal and "concretely, the expansion process is performed" (col 9, lines 37-63) reads the recited limitation.

Applicant argues, "Further, the outstanding Office Action acknowledges that the '257 patent fails to teach or suggest a second magnification unit that magnifies at least one further component signal of the color image signals *based on a ratio between the at least one component signal of the color image signals ... and the at least one further component signal*, and asserts that the '203 patent cures this specific deficiency. 10 specifically, the outstanding Office Action asserts that the '203 patent describes this feature in column 13, lines 45-50, and shown in amplifiers 34a and 35a", Page 27 is persuasive. However, Maeda et al' 643, one of well known references in the art, teaches "*a ratio between the at least one component signal of the color image signals ... and the at least one further component signal*" and the motivation to combine Maeda et al's teaching is that the ratio is used to determine whether the enlargement area contains the background image under the light (e.g. color difference ratio, Figs. 7-9, col 9, lines 44-56).

With respect to claims 24 and 56 –

Applicant's arguments presented in Pages 28-29 are persuasive. However, claims 24 and 56 along with their dependent claims are found obvious in view of Hanai (US 6,023,304) and Wakisawa et al (US 6,002,810).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner also references the applicant to the claims rejection section below for the explanation on how the prior art references read on the amended claims.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 20-21 and 52-53 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. With respect to Claim 20, limitation recites, “a second magnification unit that magnifies data of at least one further component signal of the color image signals, other than the data of the at least one component signal of the color image signals magnified by the first magnification unit, based on a ratio between the data of the at least one component signal of the color image signals to be magnified by the first magnification unit and the data of the at least one further component signal of the color image signals to be magnified by the second magnification unit, and the magnified data of the at least one component signal magnified by the first magnification unit” (emphasis is added by the examiner). According to the disclosed specification, the color component, i.e. R component or B component, which is other than the

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color component signal magnified, i.e. G component is used to calculate a ratio, i.e.  $\alpha = R/G$ , or  $\beta = B/G$ , which is multiplied with the magnified signal G' to produce R' (or B'). In addition, the data of G component, which is identical to “the data of the at least one component signal of the color image signals magnified by the first magnification unit” and is used to calculate the ratio as mentioned above. See Fig. 17, and Paragraphs 160 to 162 of the disclosure (US 2004/0165081). Thus, “a second magnification unit that magnifies data of at least one further component signal of the color image signals, other than the data of the at least one component signal of the color image signals magnified by the first magnification unit” is a new matter amended into the claim.

Claim 52 recites similar limitations as claim 20. Therefore, claim 52 is rejected under 35 U.S.C. 112, first paragraph for the same reason discussed in the rejection of claim 20 in this section.

Claims 21 and 53 are rejected under 35 U.S.C. 112, first paragraph because their dependency to claims 20 and 52, respectively.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 24 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanai (US 6,023,304) in view of Wakisawa et al (US 6,002,810).**

Regarding claim 24.

Hanai discloses an image processing apparatus (**e.g. quality correction circuit of Fig. 12**) comprising: an input unit (**e.g. Luminance signal Y is input into low-pass filter, Chrominance signals I and Q are inputted into amplifiers 60 and 61, respectively; this implies that there must be a input unit for inputting these signals to the circuit, Figs. 3 & 12 and col 9, lines 20-31 and col 18, lines 10-21**) that inputs color difference image signals and luminance signals (**Figs. 3 & 12**); and a magnification unit (**e.g. circuit of Fig. 12**), wherein the magnification unit includes, a luminance signal magnification unit that magnifies the luminance signal (**col 18, lines 46-52**), and a color difference signal magnification unit that magnifies the color difference signals (**e.g. circuit of Fig. 12 amplifies chrominance signals I and Q, col 18, lines 22-45**), wherein predetermined color information included in the color difference image signals before magnifying the color image signals is retained even after magnifying the color image difference signals (**e.g. color information, i.e. color density remains unchanged, Figs. 14 and 17, col 21, lines 16-41**).

Hanai does not explicitly disclose using a magnification method that interpolates a luminance reference pixel area of a first extent; using a magnification method that interpolates a color reference pixel area of a second extent narrower as compared with the first extent.

Wakisawa' 810 teaches using a magnification method (**e.g. a linear interpolation**) that interpolates a luminance reference pixel area of a first extent and using a magnification method (**e.g. interpolation method based on the spline function**) that interpolates a color reference pixel area of a second extent narrower as compared with the first extent (**e.g. luminance values of adjacent pixels obtained from interpolation based on spline function is closer than the**



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**interpolation pixel by the linear interpolation method, Figs. 38B and 38C, col 26, lines 28-38).**

Having an image processing apparatus of Hanai' 304 reference and then given the well-established teaching of Wakisawa' 810 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the image processing apparatus of Hanai' 304 reference to include using a magnification method that interpolates a luminance reference pixel area of a first extent; using a magnification method that interpolates a color reference pixel area of a second extent narrower as compared with the first extent as taught by Wakisawa' 810 reference since doing so would allow the number and position of pixels where to be interpolate and thus to keep color data intact to minimize artifacts (col 26, lines 39-63) and further the interpolation magnification methods provided could easily be established for one another with predictable results.

Regarding claim 56.

Claim 56 recites identical features as claim 24, except claim 56 is a method claim. Thus, arguments similar to that presented above for claim 24 are also equally applicable to claim 56.

**8. Claims 27 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanai (US 6,023,304) in view of Wakisawa et al (US 6,002,810) as applied to claims 24 and 56 above, and further in view of Kurita (US 5,933,257).**

Regarding claim 27.

Hanai does not disclose wherein each magnification unit conducts a different magnification setting processing in a longitudinal direction of an image and in a lateral direction of the image.

Kurita' 257 discloses wherein each magnification unit conducts a different magnification setting processing in a longitudinal direction of an image and in a lateral direction of the image **(e.g. Kurita discloses main-scanning and sub-scanning directions for image processing including zooming or magnification, Fig. 4b, col 8, lines 31-38).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the combination of Hanai' 304 reference and Wakisawa' 810 reference to include wherein each magnification unit conducts a different magnification setting processing in a longitudinal direction of an image and in a lateral direction of the image as taught by Kurita' 257. The motivation for doing so is to ensure all pixels be covered in the amplification process regardless their position orientation.

Regarding claim 59.

Claim 59 recites identical features as claim 27, except claim 59 is a method claim. Thus, arguments similar to that presented above for claim 27 are also equally applicable to claim 59.

**9. Claims 26 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanai (US 6,023,304) in view of Wakisawa et al (US 6,002,810) as applied to claims 24 and 56 above, and further in view of Suino et al (Suino) (US 2004/0013310).**

Regarding claim 26.

Hanai' 304 discloses wherein the luminance signal magnification unit (**e.g. amplifier 5 of circuit of Fig. 12, col 18, lines 46-52**) and the color difference signal magnification unit (**e.g. amplifiers 60 and 61 of Fig. 12**) magnify corresponding signals (**e.g. amplifies chrominance signals I and Q, col 18, lines 22-45**).

Hanai' 304 does not explicitly disclose giving weight parameters to peripheral pixels in each corresponding reference pixel area, and the weight parameters set by the luminance signal magnification unit are different from the weight parameters set by the color difference signal magnification unit.

Suino' 310 teaches giving weight parameters to peripheral pixels in each corresponding reference pixel area, and the weight parameters set by the luminance signal magnification unit are different from the weight parameters set by the color difference signal magnification unit (**Suino' 310 teaches that determining the weight of the low-pass filter at the target pixel location for Y and color difference components in Fig. 57, Para. 0285**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the combination of Hanai' 304 reference and Wakisawa' 810 reference to include the luminance signal magnification unit and the color difference signal magnification unit magnify corresponding signals by giving weight parameters to peripheral pixels, and the weight parameter set by the luminance signal magnification unit are different from that set by the color difference signal magnification unit taught by Suino' 310. The motivation for doing so is to minimizing errors with respect to the direction of a tile boundary employed. Therefore, if the weight parameter for color difference components is the same as

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luminance signal component, then the output video image will be distorted and/or moiré artifact will be introduced, and therefore video image quality will become unstable (Para. 0246).

Regarding claim 58.

Claim 58 recites identical features as claim 26, except claim 58 is a method claim. Thus, arguments similar to that presented above for claim 26 are also equally applicable to claim 58.

***Conclusion***

10. Claims 20-21 and 52-53 are rejected under 35 U.S.C. first paragraph due to new matter added. No prior arts were found due to new matter added into the amended claims 20 and 52. Further search and consideration are required upon receiving new claim amendment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Kau whose telephone number is 571-270-1120 and fax number is 571-270-2120. The examiner can normally be reached on M-F, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Steven Kau/  
Examiner, Art Unit 2625  
10/21/2008

/David K Moore/  
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